Environmental Protection Agency 2019 Targeted Airshed Grant Program

EPA-OAR-OAQPS-20-01

Wood Burning Appliance Change-Out Program

San Joaquin Valley Unified Air Pollution Control District
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Budget Summary:
Total Project Cost: $36,350,960.00

$20,000,000.00 of EPA funding requested.
$16,350.960.00 will be provided in the form of cost-share by sub-recipients.

Project Period:
Project anticipated start date: August 1, 2020
Project to end not later than: July 31, 2025

Project Description:
The District is requesting $20,000,000.00 from EPA to assist in the change-out of an estimated 7,620 open hearth fireplaces and old wood or pellet burning devices with new, cleaner-emitting burning devices to help reduce $PM_{2.5}$ emissions in communities located within the boundaries of the San Joaquin Valley.

Project Location:
San Joaquin Valley, CA – The counties of San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and the Valley portion of Kern

Project Narrative Work-Plan

The San Joaquin Valley has been identified as tied for the fifth most polluted area in the United States relative to the 2015 8-hour Ozone and the most polluted area relative to the 24-hour fine particulate matter ($PM_{2.5}$) National Ambient Air Quality Standards (NAAQS) annual standard based on 2016-2018 air quality measurements. Given the fact that the Environmental Protection Agency (EPA) received funding from the 2018 Appropriations Act to reduce air pollution in the nation's areas with the highest levels of ozone or $PM_{2.5}$, the San Joaquin Valley Unified Air Pollution Control District (District), having State Implementation Plan (SIP) responsibilities for the San Joaquin Valley as a non-attainment area and being in receipt of a continuing air program grant under Sections 103 and 105 of the Federal Clean Air Act, is eligible to apply for funding from the Targeted Air Shed Grant Program. The District is requesting $20,000,000.00 from the EPA for the implementation of a wood burning appliance change-out program that can be replicated in other jurisdictions across the United States.

Section 1- Project Summary and Approach

A. Ongoing, Significant Emissions Reductions & Consideration of Other Activities

The District is requesting $20,000,000.00 from EPA to assist in the change-out of an estimated 7,620 open hearth fireplaces and old wood or pellet burning devices (old device) with new, cleaner-emitting burning devices (new device) to help reduce $PM_{2.5}$ emissions in communities located within the boundaries of the District. Many higher-emitting wood burning devices are still being used throughout homes of the Valley, especially during the winter season where PM concentrations are the highest.

This project will promote cleaner burning from existing open hearth, wood and pellet burning devices within the San Joaquin Valley, with emphasis on those that reside in Environmental Justice (EJ) and low-income communities. The impact of this project is vital for achieving environmental protection for all communities throughout the Valley, especially at risk populations that may be disproportionately affected in adverse ways by pollution. Due to the high cost of the new device, the project will encourage the participation of low-income residents with higher incentive funding in order to obtain further emission reductions in disadvantaged communities. These communities are predominantly populated by low-income minority families, which also make up many of the EJ communities within the District's jurisdictional boundaries. Many of the Valley's communities fall within the Top 25% of Disadvantaged Communities, according to the California Environmental Protection Agency's CalEnviroScreen 3.0 map, which is a screening methodology developed to identify California communities affected by various pollution sources. Based on the latest CalEnviroScreen 3.0 model, 20 of the 30 most disadvantaged communities in California are within the Valley. Development and implementation of this program in the Valley will reduce the amount of $PM_{2.5}$ in the air and in turn improve the quality of life for local residents in Valley communities.

If approved for funding, the District Governing Board will accept the EPA funds. Funding will be administered according to the most current applications and guidelines from the District's highly successful Burn Cleaner Program (Program). This Program was developed by the District to assist residents in changing-out old devices for new devices. As this is already an established program, the District has done extensive outreach efforts and will continue to conduct outreach efforts within the District in regards to this Program. In 2019, The District Governing Board approved continuation of an aggressive multi-faceted advertising outreach campaign to support the Program. Since inception of the Program, over 18,500 change-outs have been funded by the District.

The Program is a voucher process. Residents can apply through the mail, fax, and also on-line. When an application is received the District calculates the reductions that will be obtained from each change-out. The District also verifies whether the old device location is within an EJ community. This information is entered into the District's grants management database that allows for accurate and easy reporting. Once approved, District staff sends the resident an approved voucher packet with an "up to" amount of funding

that the resident is to receive when the change-out has been completed. A timeline for completing the purchase and installation of the new device is also included. The packet contains a list of participating hearth retailers that have contracted with the District and a claim for payment form with specific step-by-step instructions for the completion of the change-out.

At time of voucher issuance, the resident is approved to proceed with an eligible change-out of the old device to a cleaner burning new device from a District contracted hearth retailer. The following are considered eligible change-outs:

Madera, Fresno and Kern County with access to natural gas service:

Old Device	Eligible New Device
Open hearth wood fireplace	Gas device or electric heat pump unit
Non-certified wood fireplace/insert/stove	Gas device or electric heat pump unit
Certified wood fireplace/insert/stove	Gas device or electric heat pump unit
Pellet stove/insert	Gas device or electric heat pump unit

Madera, Fresno and Kern County without access to natural gas service:

Old Device	Eligible New Device
Open hearth wood fireplace	EPA-certified wood/pellet device, gas device, electric heat pump unit
Non-certified wood fireplace/insert/stove	EPA-certified wood/pellet device, gas device, electric heat pump unit
Certified wood fireplace/insert/stove	Gas device or electric heat pump unit
Pellet stove/insert	Gas device or electric heat pump unit

San Joaquin, Stanislaus, Merced, Kings and Tulare County:

Old Device	Eligible New Device
Open hearth wood fireplace	EPA-certified wood/pellet device, gas device, electric heat pump unit
Non-certified wood fireplace/insert/stove	EPA-certified wood/pellet device, gas device, electric heat pump unit
Certified wood fireplace/insert/stove	Gas device or electric heat pump unit
Pellet stove/insert	Gas device or electric heat pump unit

Gas stoves, gas inserts, gas fireplaces or devices with a gas log are not eligible for replacement through this program. Gas fireplaces and appliances that are used exclusively for aesthetic or decorative use are not eligible as a replacement appliance under this program. Recipients will agree that the new device must meet heating needs and will perform the same function and operation as the old device that is being replaced. New certified wood or pellet devices must be identified on the current EPA-Certified Wood Stove Database. To achieve the greatest amount of emission reductions, additional incentives are provided to residents who replace old wood burning devices with natural gas devices.

Installation of the new device must be conducted by a District contracted hearth retailer; a third-party contractor under the approval and supervision of the District contracted hearth retailer; or by a certified technician pre-approved by the District. Self-installation or installation by non-licensed contractor is not eligible for funding. The project will require the old device be taken to a licensed dismantler/recycler for permanent destruction in order to ensure that the emissions reduced are real and permanent. The old device must be delivered to the licensed dismantler/recycler within ninety (90) days of replacement.

Once the District receives the claim for payment packet, staff will review for completeness and verify that the purchase, installation, and the destruction of the old device was completed in accordance with the program guidelines. After all information is verified, the completed claim for payment will be processed for payment and a check will be issued to the party named on the claim for payment form. Documentation will be available to the EPA or its designee to support ongoing program evaluations or audits, as necessary. The District will provide EPA with quarterly progress reports, summarizing technical progress, planned activities for the next quarter and summary of expenditures throughout the project.

Guidelines, applications, claim for payment forms and other associated documents for the project are already established through the District's Program and will be readily available for project implementation. The use of existing documents will help streamline the process of implementing the project and achieve emission reductions well within the project period.

The enclosed air basin of the Valley results in very poor dispersion and exposure to $PM_{2.5}$ and ozone well above current federal health standards. Annual exposure above the federal $PM_{2.5}$ alone has been estimated by the California Air Resources Board (CARB) to result in 1,000 excess deaths in the Valley. According to the 2003 California Health Interview Survey conducted by the University of California, Los Angeles, when compared to the California state average, there is a higher incidence of asthma among children under 18 in six of the eight counties in the Valley and in seven of the eight counties there is a higher rate of asthma attacks among children. Scientific studies also show that prolonged inhalation of wood smoke contributes to lung disease, pulmonary arterial hypertension, and pulmonary heart disease, which can eventually lead to heart failure. Further reducing residential wood smoke emissions is a high priority under the District's Health Risk Reduction Strategy given the significant localized health impacts associated with residential wood smoke. Clean wood burning devices are 20 to 50 times cleaner than open hearth fireplaces and older high polluting heaters.

This project will target emission reductions in the Valley, with emphasis on low-income and EJ communities that encompass sensitive populations. The District estimates that an additional 132 tons per year of $PM_{2.5}$ will be reduced through the successful implementation of this program. The Valley has some of the lowest education and salary levels in California with a per capita income of approximately 29 percent below that of the state average, as reported by the Great Valley Center. The Valley demographic and geographic considerations are also important, as the emission reductions are most needed in lower-income and EJ communities that are, historically, home to the highest percentage of high pollutant emitting old devices.

Not only will this project benefit all Valley residents through the emission reductions that will be achieved in their communities, but the residents changing-out their device will receive additional benefits. Many in the Valley use residential burning as a way to reduce their heating cost. Through this program, residents can have clean residential heating. As discussed later in further detail, the resident will also be able to register their device so that they may burn clean when permissible. This project allows the resident a way to burn clean and efficient, allowing for a decreased cost of their utilities bill.

District Rule 4901 coupled with the District's Program achieves on-going, significant reductions of direct $PM_{2.5}$. District Rule 4901(Wood Burning Fireplaces and Wood Burning Heaters) limits the number of days gross polluting devices can be used, while the District's Program helps to promote the purchase of cleaner devices that residents can use throughout the winter, with few restrictions.

Applicable to wood burning fireplaces, wood burning heaters, and outdoor wood burning devices, Rule 4901 limits emissions by restricting the sale and transfer of wood burning heaters to EPA certified wood burning heaters; setting limits on the number of wood burning fireplaces and wood burning heaters installed in new residential developments; establishing a list of prohibited fuel types; and implementing episodic wood burning curtailments for days when air quality is forecasted to exceed the curtailment threshold.

Recent amendments to Rule 4901 lowered the No Burn threshold for high polluting wood burning heaters and fireplaces from the previous limit of 30 µg/m3 to 20 µg/m3 and significantly increased the number of permissible burn days for cleaner certified wood burning devices by raising the No Burn threshold to 65 µg/m3. The amendments effectively doubled the number of No Burn days for high polluting units that are the source of over 95% of the wintertime residential wood smoke emissions. Additionally, clean certified units are now subject to minimal number of No Burn days ranging from zero to six days depending on the location in the Valley during the winter season.

To provide the District with an enforceable mechanism for allowing certified devices to burn during a level one curtailment (greater than 20 µg/m3 but less than 65 µg/m3), the District adopted a registration program for these cleaner burning devices. Registration ensures that the equipment is maintained in proper working condition and provides the expected reduction in emissions. Registration is voluntary and only necessary if the owner of a certified device wishes to take advantage of the additional burn days provided under District Rule 4901. Registrations are valid for three wood burning seasons and registered devices are required to operate with no visible smoke under normal operating conditions, be maintained properly, and refrain from burning prohibited materials.

At the same time the District adopted the above mentioned amendments to Rule 4901, the District also adopted enhancements to the District's Program. The Program, which supplements Rule 4901, is an important resource and provides financial incentives to help Valley residents make positive changes in their residential wood burning practices. The District's Program plays a key role in the success of the transition from older more polluting devices to cleaner burning devices. Since 2006, the Program has been helping Valley residents overcome some of the financial obstacles in purchasing cleaner alternatives. As part of the District's ongoing efforts to encourage more low-income applicants to participate, the District increased the funding amount for low-income qualified applicants to help them pay for a majority of the costs of a replacement, as many are unable to afford these expensive new devices.

B. Emissions Inventory & Progress towards Attainment

CARB distributes the emission inventory for residential wood burning into two categories of appliances: 1) Fireplaces and 2) Wood Stoves. However, the wood burning appliances in the Valley consist of three categories: 1) Fireplaces, 2) Pellet-Fueled Wood Burning Heaters, and 3) Wood Burning Heaters. The CARB emission inventory for "Wood Stoves" includes emissions from both types of heaters (pellet-fueled wood burning heaters and wood burning heaters). As reported by CARB, the 2017 $PM_{2.5}$ winter season residential wood burning emission inventory for wood stoves and open hearth fireplaces by county is as follows:

County	Wood Stove $PM_{2.5}$ (tpd)	Fireplace $PM_{2.5}$ (tpd)	Total
Fresno	0.72	0.59	1.32
Kern	0.39	0.42	0.81
Kings	0.06	0.08	0.14
Madera	0.13	0.08	0.21
Merced	0.34	0.20	0.53
San Joaquin	0.40	0.58	0.98
Stanislaus	0.42	0.45	0.87
Tulare	0.36	0.26	0.62
San Joaquin Valley Total	**2.81**	**2.68**	**5.49**

Residential wood burning is a significant contributor to Valley $PM_{2.5}$ emissions during the winter season. Based on data from the Metropolitan Planning Organizations, the U.S. Census, and survey results, the District estimates that there are over 240,000 residences that burn in the Valley contributing 13% of total winter-time $PM_{2.5}$ emissions. However, during peak winter days, organic carbon contributes up to 33% of

the composition of $PM_{2.5}$ emissions in the Valley, the vast majority of which is from residential wood burning.

On November 15, 2018, the District's *2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards* was adopted which lays out a host of strategies aimed at demonstrating attainment of the federal $PM_{2.5}$ standards as expeditiously as practicable. One of the measures contained in the plan is District Rule 4901. This rule has been essential to limiting directly emitted wintertime $PM_{2.5}$ emissions in the Valley.

The District's Program in conjunction with Rule 4901 has shown an overall improvement in $PM_{2.5}$ concentrations and air quality during the winter season, with an overall increase in the number of Good and Moderate air quality days, and an overall decrease in the number of Unhealthy for Sensitive Groups days. Compared to the beginning of $PM_{2.5}$ monitoring in the Valley in 1999, exceedances of the federal 24-hour average standards have also generally declined across the region, reflecting the success of the District's control strategy. In 2008, the Central Valley Health Policy Institute found that the District wood burning curtailments on days with high PM concentrations reduced annual PM exposure by about 13% in Bakersfield and Fresno, resulting in an estimated 59 to 121 avoided cases of annual premature mortality. This project will further support the strategies to continue to reduce PM emissions towards attaining federal standards and improve public health by reducing toxic wood smoke emissions in Valley neighborhoods, especially during the peak $PM_{2.5}$ winter season (November through February).

C. Innovative Emission Reductions

According to EPA, of the wood stoves in use today, 75% are not EPA certified. Because these old devices produce so much more pollution than EPA certified wood stoves, these older wood burning heaters and fireplaces represent 95% of the overall emissions from residential wood burning. An EPA certified wood burning heater is at least 20 times cleaner than a wood burning fireplace. This tremendous difference in emissions between these units highlights the importance of replacing existing high polluting old devices with cleaner burning alternatives.

D. Roles and Responsibilities

The District will serve as the program administrator for this program and oversee all phases of the project. The phases of the project will include the following:

- Processing of applications for funding including, but not limited to, data entry into the database, review of pre-monitoring photos, and information verification.
- Issuing approved vouchers to the participant.
- Processing the Claims-for-Payment and issuing reimbursement to the participant.

The District has also utilized both the Citizens Advisory Committee (CAC) and Environmental Justice Advisory Group (EJAG) to discuss the issues of residential wood burning emissions and to receive feedback on ways to make the District's grant program efficient and effective in reducing these emissions. Continuing with the District's commitment for community involvement, this proposed program for replacing open hearth fireplaces and old wood or pellet burning devices was presented to the EJAG meeting and received full support. The District will continue to utilize these community partners to ensure that the program achieves the greatest emission benefits to the affected communities.

<u>Section 2- Community Benefits, Engagement and Partnerships</u>

A. Community Benefits, Engagement and Partnerships

The challenges faced by the Valley with respect to air quality are unmatched by any other region in the nation. Despite major improvements in air quality, the Valley still faces significant challenges in meeting the federal health-based ozone and PM standards. These challenges are the result of the Valley's unique geography, topography and climate, which create ideal conditions for creating and trapping air pollution.

This is compounded by the presence of two major transportation corridors connecting Northern and Southern California, an extensive freight and passenger rail system, and an extensive short-haul trucking system, which is necessary to support the Valley's agricultural industry. There is a clear indication that these significant air quality challenges disproportionately affect disadvantaged minority and low-income populations given the existing geographic and socioeconomic indicators of the Valley.

Using EPA's EJSCREEN tool for the 8 counties that make up the Valley (including all of Kern County), the following demographic statistics show that the Valley has some of the most vulnerable communities in the United States of America. The statistics are as follows:

Selected Variables	Value	State Ave.	USA Ave.	%ile in USA
Demographic Index	56%	48%	36%	79
Minority Population	66%	62%	38%	77
Low Income Population	47%	35%	34%	74
Linguistically Isolated Population	10%	9%	4%	83
Population with Less than High School Education	26%	18%	13%	85

The EJ concerns in the Valley are significant, due to the areas combination of high poverty rate and its high susceptibility to creating and trapping air pollution. Compared to other EJ communities in the Nation, the EJ communities in the Valley are at a greater disadvantage due to the presence of multiple socioeconomic factors such as low education levels, linguistic isolation, high rates of unemployment and poverty. The main concern being that individuals in these communities lack resources, knowledge and involvement, find themselves unable to combat high pollution levels as well as the health effects that come along with them.

In response to the Valley's large minority population and high rate of poverty, the District has developed an Environmental Justice Strategy (EJ Strategy) to identify and address any gaps in existing programs, policies and activities that may impede the achievement of environmental justice. The purpose of the strategy is to build a framework that can be used by the District to protect the health of the residents of the Valley which may be disproportionately affected by air pollution and is intended to reflect and serve the needs of low-income and ethnic communities. As part of the District's EJ Strategy, the Environmental Justice Advisory Group (EJAG) was created in 2007. EJAG is comprised of 13 members who are residents of the Valley and have interest in representing ethnic and/or low income communities in order to provide the District with advice and guidance with respect to EJ concerns. The EJAG has been instrumental in providing guidance in developing this program and has recently given the District its full support in pursuing this EPA Air Shed Grant.

The District has currently partnered with more than 30 hearth retailers located throughout the Valley to promote the Program. Hearth retailers are required to contract with the District to participate in the Program. This ensures quality service to the residents of the Valley applying for the Program. This partnership has led to the replacement of over 18,500 old devices with cleaner burning new devices.

During the last wood-burning season, the District took part in media interviews about extreme weather and wood burning. The District has solicited input from all Valley communities, organizations, businesses, and other interested stakeholders to assist in determining the types and locations for voluntary project investment. Additionally, the District will continue to conduct Valley-wide workshops, community meetings and targeted outreach campaigns. The main focus of this effort is to ensure these funds are spent in the areas that will achieve the greatest benefit to public health and further the District's mission of improving public health for all Valley residents. The District has a Grant Funding Environmental Justice Map listed on its website available at http://valleyair.org/Programs/EnvironmentalJustice/Environmental_Justice_idx.htm which it utilizes along with ARB's Disadvantaged Communities Map at https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/lowincomemapfull.htm.

Section 3- Project Sustainability

The District has several tools in place to continue to promote and reduce emissions after the funding has been exhausted from this grant. As mentioned previously in this application, Rule 4901 plays an integral part in reducing emissions from residential burning. Combined with the District's Program, residents can make a difference in the wintertime emissions in their community. The District will continue its efforts to receive both state and federal funding to replace old devices. Additionally, under the direction of AB 617, the District will develop and implement additional emissions reporting, monitoring, reduction plans and measures in an effort to reduce air pollution exposure in disadvantaged communities.

Section 4- Environmental Results-Outcomes, Outputs and Performance Measures

A. Expected Project Outputs and Outcomes

Outputs: To successfully implement a program to reduce health risks associated with $PM_{2.5}$ emissions from residential wood or pellet burning heaters, with emphasis on those in EJ communities and low-income communities. To submit quarterly and final report to EPA documenting progress and results. The District anticipates to replace 7,620 open hearth fireplaces and non-certified wood or pellet burning devices with new EPA certified devices.

Outcome – Reduce 131.910 tons of $PM_{2.5}$, 942.937 tons Carbon Monoxide, and 246.713 tons of Volatile Organic Compounds per year.

The expected output from this project is the successful replacement of 7,620 old devices to reduce the health risks associated with exposure to $PM_{2.5}$ emissions from residential wood burning in local communities, with emphasis on those that have been identified as EJ communities and low-income. The reduction in health risks will lead to an improved quality of life for these communities and help the District meet its federal air quality attainment requirements.

The outcome is expected to reduce the emission footprint of approximately 7,620 old devices. This was calculated using a project life of 20 years using a District emission calculator based upon the EPA Burn Wise calculator. Estimated emission reductions are displayed below. The assumptions used for the calculation was 7,620 non-certified devices being replaced with EPA certified devices. Based on an average incentive of $2,362.20 for the new device, it is estimated that the overall cost-effectiveness for the project will be $3,411.40 per device.

Anticipated Reductions	PM (tons)	CO	VOC
Annual Reductions Per Device	0.017	0.124	0.032
Lifetime (20 yrs.) Reductions Per Device	0.346	2.475	0.648
Total Annual Reductions for Project (7,620 devices)	131.910	942.937	246.713
Total Lifetime (20 yrs.) Reductions for Project (7,620 devices)	2,638.204	18,858.684	4,934.232

The expected end outcome is to reduce the amount of pollutants emitted by old devices and increase the overall health of the residents. By replacing approximately 7,620 old devices, it is estimated that the reduction in pollutants will directly result in a reduction of negative health impacts associated with $PM_{2.5}$. In addition, this project will aid in educating Valley residents about the benefits of using cleaner new devices.

B. & C. Performance Measures and Performance Plan

Beneficiaries will be required to provide the District with average annual wood usage based on their old devices to ensure the reported reductions are met. Additionally, beneficiaries will be required to certify that their high-polluting old devices were rendered permanently inoperable prior to receiving their reimbursement. This program step ensures that the old devices can no longer be used, while at the same time certifying that reported emission reductions are valid and justifiable. The District will utilize its

existing grant management database to track and report on the number of old devices changed-out with associated $PM_{2.5}$ emissions reduced.

Due to the District's Program already in place, the schedule for this project only includes quarterly reports and the final report. All documents and retailer agreements are already in place. The District will report quarterly to the EPA regarding the progress of the program. The quarterly progress reports will detail the number of old devices changed-out and the estimated emission reductions. Expenditure of the grant, as well as reimbursement from EPA will also be reported with each quarterly report. The final report will contain a narrative on the achievements and lessons learned from the program.

D. Timeline and Milestones

Overall, the program will begin upon EPA approval of the District's "2019 Targeted Air Shed Wood Burning Appliance Change-Out Program", and continue up to 5 years from the opening date for the proposed project period, as detailed in the table below:

Date	Activity
April 2020	Submit application
June 2020	Accept award
August 2020	Opening of the proposed project period
4 years	Process applications, issue approved vouchers, process participant reimbursement requests, and EPA quarterly reporting
Last 6 months	Final reporting to EPA

Section 5- Programmatic Capability and Past Performance

A. & B. Management, Completion and Reporting Requirements

The District has worked with EPA on multiple EPA-funded assistance agreements within the last three years. The following table lists three such agreements that are similar in size, scope and relevance to the proposed application. Each agreement project is in progress or has been successfully implemented. The completed projects' milestones have been accomplished in accordance with the agreements. In all cases, the District has met all reporting requirements to date and on time, as specified in the applicable agreements, including all Quarterly Performance Reports documenting accomplishments consistent with outputs and outcomes designated in the program work plan.

EPA-Funded Assistance Agreements		
Assistance Agreement	**Funding Amount**	**Project Description/Progress/Status**
Targeted Air Shed – Tractor Replacement **EM-99T71301-0** - CFDA # 66.202 Awarded: 05/01/2018 Project Period: 05/01/2018-04/30/2023	$3,184,875.00	Description: Replace 273 ag tractors with new T4 tractors Progress: Currently obligating funds and paying reimbursement requests for new tractors purchased Ongoing project. Reporting is current & provided to EPA.
Targeted Air Shed – Wood Burning Appliance Change-Out **EM-99T54901-0 -** CFDA #66.202 Awarded: 04/04/2017 Project Period: 03/01/2017 – 02/28/2022	$ 2,477,250.00	Description: Change-out of open hearth fireplaces, old wood burning appliances, and old pellet burning appliances Progress: Currently obligating funds and paying reimbursement requests for new burning appliances purchased Ongoing project. Reporting is current & provided to EPA.

Targeted Air Shed – Heavy-Duty Truck Replacement **EM-99T55001-0** - CFDA # 66.202 Awarded: 04/04/2017 Project Period: 03/01/2017 – 02/28/2022	$2,477,250.00	Description: Replacement of Class 5 - 8 on-road trucks Progress: Currently obligating funds and paying reimbursement requests for new trucks purchased Ongoing project. Reporting is current & provided to EPA.

The EPA Assistance Agreements listed in the table above are but a few of the grants that the District has successfully developed, implemented and administered through state and local funding agencies, as well as other federal funding agencies. The District operates one of the largest and most well-respected voluntary incentive programs in the state. Through strong advocacy at the state and federal levels, the District has appropriated over $560 million in incentive funding in the 2019-2020 District Recommended Budget. In its twenty year history of the grants program, the District has awarded over $1.33 billion dollars in grants along with an additional $1.47 billion contributed by recipients in the form of cost-share, reduced over 165,000 tons of emissions (NOx, PM, and VOC), and has a historical lifetime cost-effectiveness of approximately $8,060 per ton of pollutant reduced. During this time, the District has required and enforced contract usage to ensure that predicted reductions were achieved.

The District has reported on time to the State of California annually for state funding sources and both quarterly and annually for federal funding sources. At the close of all state and federal grants, final reports have been submitted in a prompt manner by the agreement deadlines.

The District grants program have underwent numerous audits over the history of the grant programs. Three separate audits with the California Bureau of State Audits, Department of Finance, and the California Air Resources Board concurred that the District had a robust incentive program that was one of the best in the state. Additionally, several of the District operating protocols were included as best management practices in the 2017 State of California Carl Moyer Guidelines.

In addition, the Sierra Nevada Air Quality Group (an environmental consulting firm) conducted an independent review and assessment of the District's budget and spending. Their findings showed that the District has exercised great stewardship of public funds. When compared to four other California air districts, the Sierra Nevada Air Quality Group found that the District has one of the most cost-effective air pollution control programs for stationary sources, one of the most efficient facility inspection programs, one of the lowest administrative overhead rates and one of the most effective public education and outreach programs despite spending less per capita.

The District received the audit results of its most recent fiscal year, which earned the best audit score possible and maintained its status as a "low-risk auditee" due to the cited strong internal controls and compliance with federal rules and regulations. The audit conducted by an independent firm, Brown Armstrong Accountancy Corporation, included a review of federally funded grant programs as required by the Single Audit Act.

The District currently has 49 staff members dedicated to the development, implementation, and ongoing administration of the District grants program. With an unprecedented increase in public funding for emission reduction projects the staff maintains a high degree of public accountability to ensure effective, efficient, and judicious expenditure of public funds. The District devotes significant resources to ensure that emission reductions are real, permanent, surplus, and quantifiable. For each grant and funding source, District staff tracks the funds, interest, and expenditures for all projects with standard accounting software such as Microsoft Navigator. For each project the District tracks all significant dates, vital project unit information, and reductions in a comprehensive database that generates and tracks annual reports to ensure that each project is achieving the reductions predicted

In addition to the grant program staff, success of the grant programs relies on other staff capabilities including finance, information and technology, outreach and communication, strategies and planning, and

compliance. All District staff work closely in implementing, inspecting, monitoring, and tracking equipment and projects funded with District grants.

The District operates one of the largest and most well-respected voluntary incentive programs in the state. Since the District's inception in 1992, considerable funding has been expended in support of clean-air projects in the Valley. These projects have achieved significant emissions reductions with corresponding air quality and health benefits. The District typically requires match funding of 30% to 70% from grant recipients. To date, the District has awarded over $1.33 billion dollars in grants with an additional contribution of $1.47 billion in cost-share from recipients for a total funding investment of over $2.8 billion. Some of the key incentive programs currently available to Valley residents, public agencies, and business owners through the District include:

- **The Carl Moyer Program** – The Carl Moyer Program has been an on-going and reliable source of funding since 1999 to reduce the impacts of diesel emissions in the Valley. Through this program, the District has focused a considerable amount of funds on stationary agricultural engines as well as heavy-duty off-road equipment. To date, the District has funded over $900 million in projects and reduced over 139,000 tons of emissions with a cost effectiveness of $6,474 per ton through the Carl Moyer Program. Because of this success, the District has been approached by several neighboring air districts to either assist with the administration of their Carl Moyer Program funds or to allocate a portion of their unused funding allotment to the District as an alternative to sending those funds back to ARB. Over the past five years the District has successfully partnered with the Mojave Desert Air Quality Management District, the Antelope Valley Air Quality Management District, the Tuolumne County Air Pollution Control District, and the Great Basin Air Pollution Control District.
- **Proposition 1B Goods Movement Emission Reduction Program** - The single largest source of funding for the District's incentive programs is the Proposition 1B program, which uses bond funds for a variety of state transportation priorities. The District aggressively pursued its share of Proposition 1B funding, and the Valley will receive approximately $250 million over the life of the program. The Prop 1B Program is for equipment engaged in goods movement to replace, repower and retrofit on-road heavy-duty diesel trucks, replace locomotives, replace diesel TRUs with electric TRUs and install electric TRU infrastructure. The District has receive all of its last allocations of Proposition 1B funding.
- **School Bus Program** - Since 2008, the District has implemented multiple school bus programs for San Joaquin Valley school districts as well as numerous other school districts in the state. In 2010, ARB requested the Districts assistance with implementing the Lower Emission School Bus Program to replace and retrofit buses for 18 other air districts in the state. The District was successful in expending all funds for this program. In 2011, ARB, in conjunction with the California Air Pollution Control Officers Association (CAPCOA), requested the District's assistance in administering the statewide School Bus Retrofit Program on their behalf. This request was made in recognition of the District's capable and efficient administration of various grant programs. The District has also implemented its own compressed natural gas tank replacement program for school buses as well as replacement and retrofit programs with locally generated funds. To date, the District has obligated over $120 million in funding to retrofit or replace 2,880 school buses throughout the state.
- **Burn Cleaner Program –** This program was developed and implemented by the District to assists residents in replacing residential wood burning devices**.** Through the use of locally-generated funding, the District commits to allocating $7,500,000, for the period of 2016 through 2020 to replace between 4,000 and 7,500 older, higher polluting residential wood burning devices in the San Joaquin Valley with cleaner devices. These funds will be expended through the District's Burn Cleaner Program and are expected to reduce up to 0.4 tpd direct $PM_{2.5}$ emissions, surplus to District Rule 4901 (Wood Burning fireplaces and Wood Burning Heaters).

To date, grant recipients along with District incentives have invested a total of $2.8 billion to purchase, replace, or retrofit thousands of pieces of equipment through all of the District's grant programs. This

investment has resulted in a reduction of over 165,000 tons of NOx, VOC, and $PM_{2.5}$ emissions since 1992. Historically, states and local air agencies have not been able to obtain State Implementation Plan SIP credit for incentive-based emissions reduction. When given SIP credit, incentive-based emissions reduction can be used alongside regulatory-based emissions reduction to meet federal Clean Air Act (CAA) requirements, such as demonstrating attainment with federal air quality standards at a future date or demonstrating that emissions reduction meets federal SIP reasonable further progress requirements. Given the heavy investment from the public and private sectors in replacing equipment under these voluntary incentives, establishing a general framework to receive SIP credit for these emissions reduction was critical for ensuring the continued success of these programs. Working together with EPA, ARB, and the USDA-NRCS, the District adopted Rule 9610 (State Implementation Credit for Emission Reductions Generated through Incentive Programs) on June 20, 2013. This groundbreaking, first of its kind rule, establishes the administrative mechanism through which the District and ARB take SIP credit for emissions reduced through incentives. EPA approved Rule 9610 on February 26, 2015, finding that incentive-based emission reductions are fully SIP creditable.

C. Staff Expertise

District staff assigned to the development, implementation, and administration of this or any grant program represent many years of experience in the environmental sciences and/or grant-administration fields. In addition to an experienced management staff, the following District staff categories will provide support in the development and administration of this program:

- Air Quality Specialists,
- Accounting Technicians & Accountants,
- Air Quality Inspectors, and
- Information Technology Programmers & Analysts

Beginning with the Air Quality Specialist I position, a Bachelor's Degree from a four-year college or university with major coursework in science, engineering; regional, urban, or environmental planning; public administration; business; math; or a closely related field is required or equivalent work experience. Advancement within the Specialist classification requires progressive knowledge and experience in air quality, environmental, or related analysis, and increased supervisory responsibilities.

District staff prides themselves in excellent customer service and have made a point, over the years, to create and maintain strong working relationships with grant recipients, equipment dealers, industry groups and state and federal agencies. These relationships have provided valuable sources for networking, information requests, and support for the incentive programs provided by the District. The District provides ongoing opportunities for staff to participate in state sponsored continuing education classes in the areas of air quality management, ensuring the staff is knowledgeable in the most current technology and emission reduction strategies.

Based on a history of operating highly successful and efficient grants programs, the District is well-positioned to administer the proposed program and requested funds. The District has proactively increased staff for grant programs, as well as for finance, information technology services, and compliance to be able to handle any anticipated increased workload. The District Governing Board has committed to adding staffing resources to the development, implementation and ongoing administration of grant programs when necessary to accommodate increased program capacity.

Samir Sheikh is the Executive Director and Air Pollution Control Officer for the San Joaquin Valley Air Pollution Control District. Mr. Sheikh has nearly 20 years of experience in directing, developing, applying and administering air quality improvement programs. Mr. Sheikh was recently appointed to lead the largest air district in the state of California with some of the toughest air quality challenges in the nation.

Serving a region facing a variety of economic and public health challenges, Mr. Sheikh has led the development and implementation of some of the toughest and most innovative air pollution control strategies in the nation while working cooperatively with the regulated community to reduce administrative costs and achieve environmental and economic balance.

Mr. Sheikh has worked with a wide range of stakeholders to form a variety of successful coalitions to bring significant resources to the Valley for incentive-based emission reduction programs. Through these efforts, the San Joaquin Valley now has access to over $300 million per year in local, state and federal funds for clean air projects that expedite air quality improvement. To date, Mr. Sheikh has overseen the expenditure of over $1 billion in public/private investment in the Valley's clean air efforts through voluntary programs. With a staff of over 300 air quality professionals, Mr. Sheikh has made employees' welfare and wellbeing a top priority and has instituted a number of programs to motivate and empower employees, while focusing on providing excellent customer service to the general public and the regulated community.

Todd DeYoung has over 19 years of experience administering federal, state and local incentive programs at the SJVAPCD and recently became the Director of the Grants and Incentives department in 2019. Mr. DeYoung has been involved in all aspects of incentive program administration, including grant writing, program development, processing, contract negotiation, implementation, and auditing. Additionally, Mr. DeYoung serves on several statewide incentive program related committees including the California Air Resources Board Incentive Program Implementation Committee and recently served as the Chair of the California Air Pollution Control Officers Association Mobile Sources and Incentives Subcommittee. Mr. DeYoung holds a Bachelor of Science degree in environmental geography from California State University, Fresno.

Brian Dodds has over 12 years of experience administering federal, state and local incentive programs at the SJVAPCD and has been a Program Manager of the Grants and Incentives Department since 2018. Mr. Dodds has been involved in all aspects of incentive program administration, including grant writing, program development, processing, contract negotiation, implementation, and auditing. Additionally, Mr. Dodds has represented the SJVAPCD on the California Air Pollution Control Officers Association Mobile Sources and Incentives Subcommittee. Mr. Dodds holds a Bachelor of Science degree in Biology from California State University, Fresno.

The District has operated several grant programs with state and local funding. In its twenty year history of the grants program, the District has awarded over $1.33 billion dollars in grants along with an additional $1.47 billion from recipients in the form of cost-share, reduced over 165,000 tons of emissions (NOx, PM, and VOC), and has a historical lifetime cost-effectiveness of approximately $8,060 per ton of pollutant reduced. The District currently has 49 staff members dedicated to the administration of the District's grant programs, with many years of combined experience in the environmental or grant fields.

Section 6- Leveraged Funding

The District will not be leveraging EPA funds for the purchase of new devices. The sub-recipients will provide on average a cost-share of $2145.80 per new device. The total cost-share for this program is estimated to be $16,350,960.00 and will be provided by the sub-recipients in the form of cash payments or financed loans.

Section 7- Budget

A. Expenditure of Awarded Funding

The requested amount from EPA for personnel costs plus fringe benefits is $1,142,335 and indirect costs of $857,665 for a total of $2,000,000. The equipment to be purchased consists of 7,620 new devices at approximately $4,508 per new device. EPA would cover a total of $18,000,000 and the residents, acting as sub-recipients, will provide a total cost-share of $16,350,960 in the form of cash payments or financed

loans. The District's estimated total project cost is $34,350,960 which $20,000,000 is being requested from EPA. There are no travel, equipment, supply, or "other" costs budgeted.

Sub-recipients with old devices that meet all requirements for funding will be contracted and issued a voucher. Sub-recipients will take delivery and install the new device within 8 months of the voucher issuance. The payee will submit a claim for payment packet to the District to request disbursement of funds for the new device. District staff will review each claim for accuracy and completeness. Once all requirements are met, grant funds will be distributed to the payee. Milestones will be created and adhered to in order to facilitate timely distribution and expenditure of awarded grant funds.

B. & C. Reasonableness of Budget and Budget Detail

The District's internal grant administration policies and procedures are designed to ensure the District recovers all allowable expenditures of federal EPA grant awards while meeting applicable federal requirements. All costs are incurred and disbursed prior to billing EPA and consistent billing methodologies are used throughout the year. Duties related to the financial management of these awards are segregated and grant processing involves multiple reviews. Management reviews and authorizes all reimbursement requests.

The SJVUAPCD FY19 Air Shed Wood Burning Appliance Change Out						
			EPA Funding	District Leveraged Funds	Device Owner Cost-Share	Total Project Cost
PERSONNEL	Rate	Hours				
(1) Air Quality Assistant	$ 23.59	624	$ 14,720.00			$ 14,720.00
(1) Staff Technician II	36.63	936	34,286.00			34,286.00
(1) Air Quality Specialist II	40.41	6400	258,624.00			258,624.00
(1) Senior Air Quality Specialist	44.54	2568	114,379.00			114,379.00
(1) Supervising Air Quality Specialist	50.34	2320	116,789.00			116,789.00
(1) Senior AQ Instrument Technician	40.41	256	10,345.00			10,345.00
(1) Accounting Assistant II	23.60	704	16,614.00			16,614.00
(1) Accounting Technician II	30.12	880	26,506.00			26,506.00
(1) Accountant II	40.41	440	17,780.00			17,780.00
(1) Senior Accountant	44.54	880	39,195.00			39,195.00
(1) Supervising Accountant	50.34	264	13,290.00			13,290.00
(1) Air Quality Field Assistant	27.99	704	19,705.00			19,705.00
(1) Air Quality Inspector II	40.41	272	10,979.00			10,979.00
(1) Programmer/Analyst II	46.78	40	1,871.00			1,871.00
(1) Senior Programmer Analyst	51.58	40	2,067.00			2,067.00
TOTAL PERSONNEL			$ 697,150.00			$ 697,150.00
FRINGE BENEFITS						
(1) Air Quality Assistant	$ 18.46	624	$ 11,519.00			$ 11,519.00
(1) Staff Technician II	23.84	936	22,314.00			22,314.00
(1) Air Quality Specialist II	25.56	6400	163,584.00			163,584.00
(1) Senior Air Quality Specialist	27.44	2568	70,466.00			70,466.00
(1) Supervising Air Quality Specialist	31.10	2320	72,152.00			72,152.00
(1) Senior AQ Instrument Technician	26.22	256	6,712.00			6,712.00
(1) Accounting Assistant II	17.92	704	12,616.00			12,616.00
(1) Accounting Technician II	20.89	880	18,383.00			18,383.00
(1) Accountant II	25.56	440	11,246.00			11,246.00
(1) Senior Accountant	27.44	880	24,147.00			24,147.00
(1) Supervising Accountant	31.10	264	8,210.00			8,210.00
(1) Air Quality Field Assistant	20.38	704	14,348.00			14,348.00
(1) Air Quality Inspector II	26.22	272	7,123.00			7,123.00
(1) Programmer/Analyst II	28.46	40	1,138.00			1,138.00
(1) Senior Programmer Analyst	30.63	40	1,227.00			1,227.00
TOTAL FRINGE BENEFITS			$ 445,185.00			$ 445,185.00
OTHER						
Wood Burning Devices 7,620 @ $4,508			$ 18,000,000.00	$ -	$ 16,350,960.00	$ 34,350,960.00
TOTAL OTHER			$ 18,000,000.00	$ -	$ 16,350,960.00	$ 34,350,960.00
TOTAL DIRECT			$ 19,142,335.00	$ -	$ 16,350,960.00	$ 35,493,295.00
INDIRECT CHARGES						
Overhead Rate = 75.08% of Personal + Fringe			$ 857,665.00			$ 857,665.00
TOTAL INDIRECT			$ 857,665.00			$ 857,665.00
TOTAL FUNDING			$ 20,000,000.00	$ -	$ 16,350,960.00	$ 36,350,960.00